

**REMARKS****I. General**

The issues outstanding in the instant application are as follows:

- Claims 7 and 33 are objected to for informalities; and
- Claims 7-21 and 28-37 stand rejected under 35 U.S.C. 112, first paragraph;

Applicants wish to thank the Examiner for the indication of allowance of claims 22-27. However, Applicants hereby traverse the outstanding rejections of the claims, and request reconsideration and withdrawal of the outstanding rejections and objections in light of the amendments and remarks contained herein. Claims 7 and 33 are amended above for cosmetic purposes only, resolving minor informalities and correcting typographical errors, and not for a substantial reason related to patentability. No new matter has been added by these amendments. Claims 1-37 are currently pending in this application with claims 1-6 withdrawn from consideration.

**II. Objection to the Claims**

Claims 7 and 33 are objected to for informalities. The Office action suggests that the phrase “said local oscillator” in claim 7 be changed to “said local oscillator signal.” This amendment to claim 7 has been implemented above. The Office Action suggests that claim 33 be amended to replace the phrase “said first intermediate frequency signal” with “a first intermediate frequency signal.” However, claim 33 is amended above to correct a typographical error in claim 33, replacing the phrase “said first intermediate frequency signal” with the phrase “said first local oscillator signal.” Correspondingly, the word “second” has been deleted from the phrase “second intermediate frequency signal” in claim 33. Support for this amendment can be found at least at lines 15-18 of page 10 of the specification. Claims 7 and 33 have been amended as indicated above only for the purpose of resolving the cited informalities, and not for the purpose of narrowing their scope in the face of prior art. No new matter has been entered. As these amendments address the recited informalities, Applicants respectfully request the withdrawal of the objection of record.

**III. Rejections under 35 U.S.C. §112, first paragraph****A. Claims 7-21**

Claims 7-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The Office Action alleges that the claim 7 limitation “a phase-locked loop comparing a characteristic of the local oscillator and intermediate frequency signals...” is not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The Office Action states that it is “unclear to the Examiner after reviewing the drawings (Figs. 1 and 5) how the phase-locked loop obtains a characteristic of the intermediate frequency signals.”

The Office Action goes on to quote the specification as disclosing “PLL 414 also preferably provides a carrier frequency offset error signal to receiver computer indicative of the frequency difference between the incoming reference carrier signal provided by receiver radio circuitry 440 and nominal center operating frequency of PLL as set by frequency synthesizer 420” (pg. 14, lines 23-26).” The Office Action then provides that “after reviewing Fig. 1, it is illustrated that the PLL 414 has only one input connected to output of the frequency synthesizer. Therefore, it is unclear how the PLL receives the incoming reference carrier signal for comparison.” However claim 7, nor its dependent claims have limitations speaking to a “reference carrier signal.” Hence, Applicants fail to understand the applicability of this portion of the rejection.

However, in response, Applicants have amended the drawings. In FIGURE 1, the arrow leading from radio circuitry 440 into modem 410 has been shortened to more clearly indicate that signals from radio circuitry 400 are provided to modem 410, rather than only to demodulator 412. Similarly, FIGURE 5 has been amended to show that the signals to and from radio circuitries 370 and 470 are provided to modems 360 and 460 respectively, rather than only provided to modulators/demodulators 362 and 462. Thus, as provided at least at page 14, line 17, of the specification, FIGURES 1 and 5 now shows that the “PLL 414 in combination with demodulator 412 receives the IF signal from radio circuitry 440.” Whereas, the quoted section of page 14, lines 23-26 indicates that “the incoming reference carrier signal [is] provided by receiver radio circuitry 440” Applicants respectfully assert that

the specification and drawings now each describe the invention as claimed in claims 7-21 in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention

**B. Claims 28-32**

Claims 28-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The Office Action alleges that the claim 28 limitation “comparing a frequency of the intermediate frequency signal and a frequency of the local oscillator signal to supply an offset error signal . . .” is not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The Office Action states that it is “unclear to the Examiner after reviewing the drawings (Figs. 1 and 5) how the phase-locked loop obtains a characteristic of the intermediate frequency signals.” Applicants respectfully assert that whereas claim 28, nor its dependents, include a limitation speaking to the use of a PLL, it is irrelevant to the examination of claim 28 and its dependents as to “how the phase-locked loop obtains a characteristic of the intermediate frequency signals.”

The Office Action goes on to quote the specification as disclosing “PLL 414 also preferably provides a carrier frequency offset error signal to receiver computer indicative of the frequency difference between the incoming reference carrier signal provided by receiver radio circuitry 440 and nominal center operating frequency of PLL as set by frequency synthesizer 420” (pg. 14, lines 23-26).” The Office Action then provides that “after reviewing Fig. 1, it is illustrated that the PLL 414 has only one input connected to output of the frequency synthesizer. Therefore, it is unclear how the PLL receives the incoming reference carrier signal for comparison.” However claim 28, nor its dependent claims have limitations speaking to a “reference carrier signal.” Hence, Applicants fail to understand the applicability of this portion of the rejection.

However, the amendments to the drawings discussed above should also address these rejections, as FIGURES 1 and 5 now shows that the “PLL 414 in combination with demodulator 412 receives the IF signal from radio circuitry 440” including “the incoming reference carrier signal provided by receiver radio circuitry 440” Thus, Applicants respectfully assert that the specification and drawings now each describe the invention

claimed in claims 28-32 in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention

C. Claims 33-37

Claims 33-37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The Office Action alleges that claim 33 limitations “a first phase locked-loop circuit supplying a carrier signal in response to said first intermediate frequency signal,” and “a second phase-locked loop circuit responsive to said second local oscillator signal to supply (a) a second intermediate frequency signal and (b) offset error signal in response to a difference between a frequency of said second modulated carrier signal and frequency of the second intermediate frequency signal” are not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The Office Action states that it is “unclear to the Examiner after reviewing the drawings (Figs. 1 and 5) how the phase-locked loop obtains the first the intermediate frequency signals.”

The Office Action goes on to quote the specification as disclosing “PLL 414 also preferably provides a carrier frequency offset error signal to receiver computer indicative of the frequency difference between the incoming reference carrier signal provided by receiver radio circuitry 440 and nominal center operating frequency of PLL as set by frequency synthesizer 420” (pg. 14, lines 23-26).” The Office Action then provides that:

after reviewing Fig. 1, it is illustrated that the PLL 414 has only one input connected to output of the frequency synthesizer. Therefore, it is unclear how the PLL obtains a frequency of the second modulated carrier signal and a frequency of the second intermediate signal. The specification also discloses that radio circuitry provides intermediate frequency signals (pg. 14, lines 17-19). Therefore, it is also unclear how the second phase-locked loop circuit supplies a second intermediate frequency signal.

As noted above claim 33 has been amended to correct a typographical error replacing the phrase “said first intermediate frequency signal” with the phrase “said first local oscillator signal.” Also, as noted above, FIGURES 1 and 5 have been amended. In FIGURE 1, the arrow leading from radio circuitry 440 into modem 410 has been shortened to more clearly indicate that signals from radio circuitry 400 are provided to modem 410, rather than only to

demodulator 412. Similarly and of particular relevance to claim 33, FIGURE 5 has been amended to show that the signals to and from radio circuitries 370 and 470 are provided to modems 360 and 460 respectively, rather than only provided to modulators/demodulators 362 and 462. Thus, as provided at least at page 14, line 17 and lines 23-26, of the specification, FIGURES 1 and 5 now shows that the “PLL 414 in combination with demodulator 412 receives the IF signal from radio circuitry 440” which includes “the incoming reference carrier signal provided by receiver radio circuitry 440” Applicants respectfully assert that the specification and drawings now each describe the limitations recited in claims 33- 37 in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention

For at least the above reasons Applicants respectfully contend that claims 7-21 and 28-37 are enabled by the present specification and/or drawings. Regardless, Applicants note that original claims constitute their own description, see M.P.E.P. § 2163.03 citing *In Re Koller*, 613 F.2d 819, 204 USPQ 702 (CCPA 1980). Since the claims, as originally filed, recite how the intermediate frequency signal is provided Applicants assert that the claims are self-enabling under M.P.E.P. § 2163.03. Additionally, Applicants note that the subject matter of the claim need not be described literally (i.e. using the same terms) in order for the disclosure to satisfy the description requirement, see M.P.E.P. § 2163.02. Accordingly, Applicants assert that the claims themselves, the specification (particularly the passages quoted above), and/or the drawings (particularly as amended) are sufficient to enable one skilled in the art to make and/or use the invention as claimed.

**IV. Conclusion**

Again Applicants wish to express their gratitude for allowance of claims 22-27. However, in view of the above arguments and amendments, Applicants believes all the pending claims are in condition for allowance.

Applicant believes no fee, beyond the extension fee dealt with in the accompanying transmittals and Petition for Extension of Time, is due with this response. However, if a fee is due, please charge Deposit Account No. 06-2380, under Order No. 63692/P014US/10304972 from which the undersigned is authorized to draw. Applicants respectfully request that the Examiner call the below listed attorney if the Examiner believes that he can be helpful in resolving any remaining problems.

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Respectfully submitted,

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Enclosure: 2 Replacement Drawing Sheets